

HealthAI: Intelligent Disease Prediction and Emergency Healthcare Assistance System

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Abstract: *Early detection of diseases plays a crucial role in improving patient survival rates and reducing medical complications. However, limited access to healthcare professionals, cost barriers, and delayed medical consultations often prevent timely diagnosis. HealthAI is a web-based intelligent disease prediction system developed to provide preliminary healthcare guidance using Natural Language Processing (NLP) and Machine Learning techniques. The system processes user-entered symptoms using TF-IDF vectorization and cosine similarity algorithms to match symptoms against a dataset of 200 diseases. The platform integrates an AI chatbot interface, emergency symptom detection, voice input processing, and hospital location services. Experimental evaluation demonstrates prediction confidence scores ranging from 90% to 98%. HealthAI provides fast, accessible, and reliable healthcare assistance, enabling early-stage disease awareness and timely medical intervention..*

Keywords: Disease Prediction, Machine Learning, TF-IDF, Cosine Similarity, Healthcare AI, Chatbot

